

The
Heritage
of the
Prairies



S

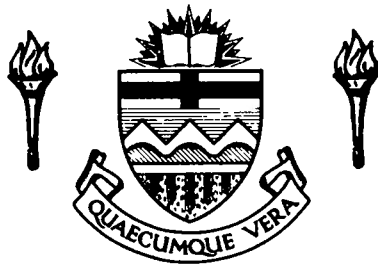
623

R22

1946

SCI

Ex libris
UNIVERSITATIS
ALBERTAENSIS



6,

FOREWORD

THE CONTENTS of this booklet are composed of five broadcasts prepared and given by F. W. Ransom on "The Co-op Program" in October and November, 1945.

They are a series of short talks devoted to phases of the subject of soil conservation.

Many favorable comments have been received on these talks, and they are published in the hope they will be of use to study groups and lead to a greater appreciation of the land of our adoption.

THE STUDY GROUP COMMITTEE,
DEPARTMENT OF AGRICULTURE,
WINNIPEG, MANITOBA.

UNIVERSITY
OF ALBERTA LIBRARY

THE HERITAGE OF THE PRAIRIES

CONTENTS

	<i>Page</i>
OUR PRAIRIES	5
THE GOOD EARTH	10
THE RELIGION OF THE SOIL	15
OUR STEWARDSHIP OF THE SOIL ...	20
SOILS AND HEALTH	26

OUR PRAIRIES

WHAT is there about the prairies that attracts and holds you as a sailor to the sea, the farmer to his farm, the tiller to the soil? You may go to other places, to the coast or foreign countries for rest or vacation but ever your thoughts revert to the scene of your life's labors. There is a silent force in these prairies which pulls as a magnet in their direction. I like, I love, the prairies. It is the land of my adoption. Here on the soil we—my wife and I—established our home. It is the home of our children and will be, we hope, of our children's children for generations to come. We planted ourselves on the land, our roots go down into the soil as deep as the roots of the grass and the trees.

The soil has nourished us as it nourishes the poplars and willows of Turtle Mountain or the spruce and the birch around lovely Clear Lake, as it nourishes the grass on the banks of the Assiniboine or in the valley of the Red or nourishes the aromatic yarrow and the pungent sage plants of our plains, as it nourishes trees in the bluffs of our park-like regions. I am at home here, it is my home land. I want to know more about it that I may live more intelligently and in harmony with my surroundings.

I rebel against the idea of making and getting out. I have lived here now 47 years in association with men who tilled the soil—people from many different lands. They are a great people and our rich soil has made them so. The land which produces the world-famed One Northern Wheat produces Grade One Northern people.

From the first years of settlement farmers have organized for many purposes. They organized for federal politics in 1921 and carried every rural constituency in Western Canada; in 1924-25 they organized the largest co-operative marketing association in the history of agriculture; they have established co-operatives for practically every type of service. True, they have had their set-backs and even been knocked to their knees but they were never beaten. They were men with the ability and

capacity to organize and administer; they had vision, courage, grit and character. They were fighters in the best sense of that word. The prairies have raised and still raise great men and great women, the fathers and mothers of a strong, virile and sturdy race, the stuff of which history is made.

I speak of the prairies because they interest me, talk to me, appeal to my imagination and warm my emotions. Their appeal derives from a relationship with nature in our everyday experiences. Poets and writers have extolled the beauties of nature and their literature is a rich heritage but you must live in the west to know its character, its own rich beauty, its skies, its bird and animal life, its flowers, its sounds and its moods. The broad sweep, the wide horizon, the distant view are of the character of our plains.

From the higher land of our farm I can see stretching forty miles east and west and twenty miles to the north a broad expanse of level country. Within the frame-work of the blue horizon is Whitewater Lake, the resting place for myriads of water fowl on their migratory flights in spring and fall. Spreading out in all directions are fields, square, oblong, black, green and brown—a patchwork quilt of farm land; dotted all over at irregular distances of a half mile or so are buildings and the farm homes of our prairie folk. Several small towns with their red elevators and clustered businesses and dwellings, connected by a thin, straight line of railroad, stand out in the picture. In the early morning the windows of those farm homes reflect the rays of the morning sun and they sparkle like diamonds or shine like mirrors as if in welcome to a new day, and to express hope which springs eternal. What a picture!

Our prairies are broad, expansive and without limit, where the winds drive and the storms rage, the sun shines and peace endures, and where the elements find no obstacle to the full play of all their variable moods. The environment of space and sweep has moulded and shaped in the character of our people the spirit of independence and the age-old urge for freedom.

Our prairies have a beauty all their own. The wide river valleys, graceful in their sweep, with smooth, rounded slopes indented with gullies, wind about and along to

disappear in the distant haze. The stories of our school readers come to mind, and where the banks are steep one pictures the buffalo herds, urged on by Indians, dashing in confusion down to their doom. The flint arrow heads and bones which are commonly found tell the story of the chase.

Any one of ordinary sentiment cannot but be impressed with the scenic grandeur of the valleys of the Assissippi, the Qu'Appelle, the Assiniboine, the Souris, the Pembina and the Red. They are not of the mountain or forest but distinctly prairie; not rocky or jagged but grass banked, exposed and rounded, with small trees, saskatoon, choke-cherry and wild plum hiding in the sheltered runways.

To the visitor I would say go to LaRiviere, to Coulter-
vale, Wawanesa, St. Lazare, Miniota, and north on the road
from Russell to Roblin. Don't hurry, take your time, leave
your car at the highway and walk over to a nearby edge
where you can command an extended view, sit down on the
prairie grass, observe, meditate, drink in the scene—it is
prairie wine. Those names, they will take you back to the
Cree, the voyageur, the pioneers. They are our history
inseparable from our geography. Yes, the land, the grass
plains, the treed hills, the Indians, the buffalo, the coyotes,
the wild geese, the anemones, the golden rod, the trails,
the people and the settlements are threads of various hues
and texture inter-woven in a picture that is all our own.

The history of any land begins with nature, and no matter how much man invents he can never get away from that foundation. Man advances by learning the secrets of nature and applying that knowledge, and he is happy **only** when in harmony with his work and his environment. Years of living here, association with nature and experience, have given us knowledge of our surroundings; but knowledge without imagination is useless. It is the pictures we build out of our thoughts, the mind pictures, the imaginings, that create sentiment and that love of the prairies about which I am trying, however feebly, to speak.

Good literature helps to an appreciation of the finer things of life, but if I had to make the choice then I would prefer the wild howl of the coyote, the weird, haunting laugh of the loon, the muffled booming of the prairie

chicken, the drumming of the partridge, the honking of the wild geese and the trumpeting of the swan to most of the books and most of the music. They are the sounds of the prairie, the voices of the wild, they speak of freedom. Our province is well named Manitoba—the Voice of the Great Spirit.

Beauty is where you find it, and it is surely to be found in our flowers. Perhaps nowhere in Canada is there greater variety than on the prairies, and from early spring until the first frosts, the floral picture exhibits every conceivable shade and color. Don't you admire the little anemone which in early April, before the snow has gone, will clothe the bare knolls in purplish hue? It characterizes the very virtues of our people—courage, rugged beauty and strength. They have grown up in the same soil. The anemone was well chosen as the floral emblem of our province. Spring and summer paint the laughing soil in the brilliant rainbow hues of the scarlet lilies, yellow sunflowers, bluebells, mauve bergamots, to be followed in the fall by the vari-colored asters and the golden rod. Nature applies her brush in lavish display. A neighbor told me that when he first came to this country, within the circle of the wagon turn he counted 19 different kinds of flowers. He didn't know their botanical names but what matter—he enjoyed and drank in their beauty. That's the way these prairies get you.

When I arrived at Whitewater on a harvest excursion in '98, almost the first impression I received was of the wild bird life. The wild geese flying overhead in their long waving vees, each bird in turn cleaving the air for the next—the principle of mutual aid. Vee after vee they came, day and night, not in thousands but in hundreds of thousands to stop at the lake to rest and feed up before continuing their journey south. The air was filled with sound and stirred with life; the honking geese, the whooping sand-hill cranes wheeling in their flight, quacking ducks, trumpeting swans, pelicans and the lesser water birds, plover, snipe—an almost endless list. And what about the land birds? I have read that they are to be seen on this migratory route in greater variety than at any other place on this continent. Be that as it may—they bring to the prairies music and color.

But the chiefest glory of the prairies is its sky. It is a

palette on which the artist paints the grandest shades and colorings to be found in the whole realm of nature. They inspire with awe and admiration. The rising sun with beams far flung greets the smiling morn; in the evening, his journey done, he descends in a halo of glory pronouncing his benediction on a peaceful earth. No pictures so lend themselves to the imagination. I remember, as a child, a picture in our family Bible which followed the Book of Revelations. It depicted as a grand finale to man's life on earth, people ascending a great stairway through the clouds to the heaven of their dreams. Many a time have I seen that picture repeated by the Great Artist on our western skies. The roseate hues of the setting sun across stratus clouds painting a broad stairway leading to the land of the great beyond.

Well, I have spoken of the prairie, its environment and attachments. I would that I could express my thoughts and sentiments in a better way, but the westerner will understand. These images are a part of his life and picture his experiences. They grow into his soul and become a part of his being, nothing can destroy them. Soils and men, the sky and the land, its history and its life, its great natural beauty, combine to shape and make us what we are. "The character of the country is the destiny of its people."

THE GOOD EARTH

MANKIND is dependent for its existence on the soil, it is the giver of life and sustains all things; plants, animals and men.

The picture of the soil is one of ceaseless change. The parent rock is broken into fragments by the slow, irresistible forces of heat and cold, of frost and ice. The fragments become small particles by the grinding process of rivers, glaciers, land movements and scouring winds. Meanwhile the chemicals are dissolved. Decaying vegetation mixes humus with rock particles and plant roots draw up the minerals to add them to the surface layer.

The soil teems with life. Bacteria and many other micro-organisms are the agencies which swarm in the soil to break down the raw organic material and carry on the process of decay. Fungi are numerous and active. Then there are molds and one-celled animals (protozoa) which feed on the bacteria. Worms, insects and larger animals live in the soil and affect its content. Thus is plant and animal matter changed into soil substance.

The Polynesians have a saying: "The land is the only living thing. Men are mortal. The land is a mother that never dies." Who is there insensate to the call of the soil whence all life begins and to which all life returns? In association with the soil we learn the lessons of life. "Speak to the earth and it shall teach thee." The earth is our great Mother and upon her broad bosom we feed and draw the breath of life. From her we came and in the end to her we will go, to sink into her arms locked in eternal sleep. The living die to return to the earth, there to decay and be changed to live again in other form. It is the eternal round, life, death and resurrection. In the soil there is no death but life eternal.

In ceaseless change and teeming life, the soil is alive with tremendous vitality. Every man knows in his heart there is goodness and well-being in the soil and in the sustenance he draws from the earth. Every good farmer

learns how to adapt himself to his environment, to work in harmony with nature, to live in right relationship to the soil. We stress conduct, right living and citizenship, and the first step towards citizenship is right conduct towards the earth. One does not act rightly towards one's fellows if one does not know how to act rightly towards the earth.

When out at the farm a few days ago, the grandchildren and I took a walk down to the ravine. The ravine angles across the bush quarter. It has wide banks well wooded with poplar, birch and shrubs. To go to the farm without a walk to the ravine is no visit at all. Generally it means as well having a story and perhaps a camp fire. This time, however, the story was out of the open book of nature. We followed a path through the bush, down to the creek. We walked along its dry bed to a favorite spot there to have a story as we sat in the environment of natural beauty.

One child seated on a low arm of a crooked tree, the other leaning against its trunk, we talked of the soil. We had taken a trowel with us and dug its full depth into the soft, moist earth and brought up about a foot of soil to have it before us for close view. Starting at the surface of the sample, there was a green carpet of moss and lichen, and with it, dead leaves and twigs. Just below was the decayed vegetation of preceding years. Below that layer again was vegetable matter mixed in with soil particles and quite dark in color. At the lower depth it shaded off into brown, to the yellow clay. "Well," we asked ourselves, "what made it black or dark?" Apparently it was the accumulation of years of decayed material which had worked down into the clay. Then, all through our soil sample were small rootlets, some only fine hairs, just visible; it was indeed a network of roots. It seemed rich and good. Probably it was our surroundings that made it seem so.

All around us were the white poplars and birch with their silver bark, blood-red cranberries and black chokecherries hanging in clusters from bushes, shrubs of dogwood and hazel, plants of golden rod, aster and other flowers, now dead, which were proof of its richness, and the earth odor, the beauty of the scene and the enjoyment they gave, were proof also of its goodness.

We chatted on and asked other questions of one another.

"But there's something mysterious about all this," we said, "the trees, bushes, growth and soil. Look at the trees around us. That big tree there, it came from a tiny little seed; compare its huge bulk with its small beginning. From whence came all the material which makes it a tree—the wood, the fibre, the sap, the leaves, and so on? How did it grow? Or that plant there of fireweed. It began also in the same small way and grew into a plant with stem, leaf, flower and seed." And the questions continued. We knew that the tree and the plant grew out of the soil and were fed by it and that with the sun, air and water made them what they were. But, looking at the soil sample before us, all we could see was clay, humus, decayed vegetable matter and rootlets. Was this the food and how was it changed into a beautiful tree and a living plant?

Now the question was getting difficult and it had to be admitted, there was no complete answer, that there are mysteries of life which have never as yet been fully explained; that the people who make a study of plant life, the scientists, would be the first to say, in all humility, there is much they do not know as to what makes a plant grow and how the marvellous changes from soil to visible life take place. However, we added to our little store of knowledge by learning that in the soil there was very much more than could be seen with the naked eye. A microscope would show "bugs" or bacteria of many different kinds, and the tiniest little insects and fungi and molds and much other small life all constantly working to help change the food in the soil into a form that could be used by the plant or tree.

We learned that in a small bit of earth but a few feet square there were more workers than in all the factories in Canada and that they helped to change matter into sap and wood and stem and leaf. The emphasis was on the fact that this earth, this soil on which we walk and in which we work is a living thing. We talked on, happy in our subject. We delved a little more into the question of soil, life, change and growth, at the same time increased our wonder in the workings of Nature and her mysteries.

Close examination would show also that there are many minerals included in the soil substance and they also form part of the food used by the plants and the growth we see

around us. As well through the food we eat these minerals help build the framework, the skeleton, the muscle, blood and brain of the human body. Now, these minerals, calcium, phosphate, nitrates, etc., are dead, inert matter, can in fact be bought in a drug store, yet by some mysterious process in the soil they form a combination which becomes the living plant or living body. Lime, iron, and other inert chemicals become sap and fibre, bone and blood. The inorganic becomes the organic—the non-living becomes the living. A miracle—the greatest in the whole realm of nature!

Later this plant, that tree, will die and return to the soil from whence they came—there, like the moss and the dead leaves, to become a part of it, to be changed into some other form, eventually to feed, produce and become part of other plants or shrubs or trees. So they live, die and are born again. The living soil receives the dead and produces life. It is creator—the Good Earth. We must respect, honor and reverence it.

This young boy and young girl, these grandchildren, like the ravine for its peace, beauty and goodness. They like the farm and say that when they grow up they are going to be farmers.

What is there about the soil that you form attachment to it, that draws and holds you as a child to his mother? I recall a young man of a little over twenty years who attended one of the M.F.A. folk schools, saying: "I like plowing on the other farm. It is distant, sort of by itself, and trees all around. There are no stones. It is quiet and as I ride the plow I can think about the land and farm life. I sure enjoy it!" A friend of mine, who lived near Deloraine, used to carry his boots when walking to town and would only put them on just a little way before entering. At home on his farm he always went barefoot when working in the fields. He liked the naked contact of his feet with the soil, he liked the feel of the earth.

Have you read "The Good Earth" by Pearl Buck? You will remember it's a classic story of Chinese peasant life and Mother Olan is the central character. She loved her fields, she worked in them in her bare feet planting, weeding, harvesting. She found in them her strength and vitality. They were for her the book of life. She wanted her sons to

stick to the farm. Stay with the land and you cannot go wrong, was her exhortation to her sons.

Do you remember in the picture, "The Grapes of Wrath," that scene when the Joads are being tracted off the farm, and old grandpappy is seated on a box in the yard with some soil in his hand? As he watches it slowly sifting through his fingers he says: "My folks was born here, I was born here and our family was born and raised here and I ain't a-goin' to leave." The only way they could get him off the farm was to get him drunk, load him on the top of the jalopy and take him away. The same thought is conveyed in a scene in that picture "Gone With the Wind." One of the characters has picked up some soil and, looking at it as it drops through his fingers to the ground, he says to Scarlett O'Hara: "I know what it is that makes you determined to go back to the old farm." Many a city man finds out later on in life that he has inherited a liking for all that pertains to the country—indeed, many retire to it in their declining years. It is the pull of the land—it is in your blood—it is born in you. Perhaps that is why two-thirds of the people of the world live on the land.

We did not create the earth, we have received it. It is a great heritage. Man has dominion over all the earth. He has a trust and in the soil a heritage to guard.

Nature is a beneficent Mother and lavish in her beauty. Nature is a good partner and will work with us fifty-fifty in production to meet our needs. At the same time she is law-giver and requires strict adherence to the rules. There is no forgiveness for indifference, carelessness or mistakes. The land is a bank account of fertility, what is taken out must be put back. If the land is cropped year after year and nothing returned, if the soil is depleted of its fibre and goodness, eventually it erodes, ceases to produce and becomes barren. Once destroyed the land cannot be restored except through ages. Many deserts are man-made and many millions of acres of once rich land have been made unproductive and ruined. The future of this country, indeed of civilization, depends primarily on the soil. Destroy it and you destroy all life. Be good to it and you may build for generations to come. Only good comes from the Earth. The goodness of the whole realm of nature is the basic fact of our existence.

THE RELIGION OF THE SOIL

THERE'S a heap of religion in the soil. It holds the unsolved mystery of life on earth, of death and of creation. Living in a material age, hardened by war and the desire for gain, we are fast losing a sense of relationship between man, his life, his civilization, and the soil; it would be better for us and our civilization if we gave more thought to the earth as the very foundation of our existence and the source of all that maintains it. We need to learn the part we have to play in renewing by our care and labor its power to minister to our life.

I have said that there is religion in the soil; now, by religion I am not referring to any church or creed—I am speaking in the broad sense as of that which man deems sacred and that which we revere or venerate. It is easy to understand that our very early ancestors, realizing their very existence depended upon the productions of the earth, gave it sacred attributes. They devised gods and goddesses with powers superior to man who directed and controlled the course of nature and of human life. They pictured to themselves the changes of the seasons and particularly the annual growth and decay of vegetation as stages or steps in the lives of their gods. The apparent death of vegetation when the trees shed their leaves and the grass turned brown coincided with the death of the god, to be resurrected in spring when the trees leafed again, the grass revived, vegetation came to life and the earth was reborn.

Our pagan ancestors (and the word "pagan" means simply a man from the country) fashioned for themselves deities who inhabited the skies, the earth and the world under the earth; gods of the sun, the stars, of thunder and lightning, of rain, gods personifying the forces of nature and governing their activities. The most popular, however, were those of vegetation. The countries of their most common worship were those around the eastern Mediterranean, Egypt, Syria, Asia Minor and Greece; countries which with

Babylon have been called the birth place and home of western religions.

The seeding and the harvest corresponding to the birth and death of the god were celebrated in dramatic rites with alternate rejoicing and sorrow. Among the early Egyptians, Osiris, the mythical founder of agriculture, was worshipped as a corn god. In the great festival of seeding the priests buried his clay images in which were put grains of wheat or barley. Later in the season these effigies were taken up and the grain would be found to have sprouted. This confirmed their belief that the corn god was the cause of the growth of the crops. He had produced the corn from himself, he had given birth to the plant which in due course would provide food and the means of sustenance.

All the early religions related to the forces of nature which were personified in deities after man's own image with the same sentiments, passions, hopes and desires as himself. With the primary consideration of food and existence, naturally he formed out of his imaginings those who were responsible for growth of crops and the productions of the soil. One of the best known of Greek religions was the worship of Ceres, (from which, of course, we get our word cereal) the mother of all things, and that of Persephone, her daughter, the personification of grain. Persephone was seized by Pluto and carried away to the underworld where she had to remain for six months every year. During that time all vegetation ceased, the earth was barren and it seemed as though all life must come to an end. In the spring, released from her sojourn underground, she returned to the earth and the bare fields became green with verdure, the grain sprouted, the leaves came forth and the flowers blossomed.

The mysteries of the seasons and plant growth were explained in the countries of the then civilized world by similar myths and worship which though varied in form had the same central character and theme. Religions from their beginnings have been closely associated with the soil. The stories or myths of the gods were symbolized in generally strict ritual and ceremonies. The worship of the gods of vegetation in one form or another existed for many centuries prior to the Christian era and was spread among the peoples

of many other lands. Such gods were worshipped on this continent long before the white man's arrival; they were worshipped in one form or another in every country of the world.

Appeals for help in the production of crops, for rain, for good weather and abundance; thankfulness for harvest; sorrow for the death of vegetation with the oncoming winter and joy for the rebirth of the earth in spring were widely and generally expressed in drama, dance, music, prayer and ritual as part of the ceremonies of worship, and were practiced in the homes, churches, temples and the open arenas in field and grove. Subsequent to the Christian era, many of these ceremonies, reduced to the level of frolics, pastimes and fun festivals, have been carried down to modern times; the grand chain-all or circle of the country dances, carrying in the last sheaf of the harvest home, the Maypole dance on the village green, the luck of the mistletoe, Hallowe'en festivities, May-day, to mention but a few.

They are no longer regarded as the solemn rites on the proper performance of which the welfare and life of the people depends. With the advance of knowledge they no longer demand the strict observance of followers whilst the origin and the intention with which they were instituted have been forgotten. Let us not make the mistake of scoffing at the superstitions of the past. If mankind had always been faultless and wise, his history would not be one of wars and folly. "Our resemblances to the savage are still far more numerous than our differences from him."

The knowledge of today is the harvest of the experiences of the past. We have learned through the centuries and are learning what is useless and inapplicable. Much chaff has been winnowed out and discarded to get the grain, but there is yet much to do. We are indebted to our pagan ancestors for much of what we thought our own. Their errors seemed wise and justifiable at the time; only by testing and experience has the truth been gleaned. In all the myths and practices of a superstitious age there are germs of truth, golden grains of wisdom, for instance, in their attitude towards the soil, a recognition of its mystery, its goodness, its place in human affairs and influence on man's life. The whole round of agriculture was governed by rites and regulations of

religious significance and in the affairs of the state and in making its laws the religious phases of agriculture played a predominant part.

Today we have gone to the other extreme. We have ruined the soil, slaughtered the forests and destroyed the land, yes, on millions of acres of this continent. Sentiment and respect for the soil have almost completely disappeared from our thinking and our behavior. We boast, in our conceit, we are practical, but we forget all the attributes of goodness pertaining to the soil, its bounteous nature, its productivity, its beauty and its life-giving properties. How much can we get out of it, what money is there in it? Yes, money, gain, that is the god we really worship and bitterly are we paying the price.

When I came to this country my aim was to make money, get out, travel and have a good time. Of course, I was quite young, was strong and full of pep, and the making would be easy—nothing to it. Later, having married, set up a home, assumed responsibilities of position in the community as school trustee and in farm organizations, I gradually came to realize the foolishness of youth's desires. On reflection, these experiences revealed to me the serious side of life, that there is no satisfaction in living solely for self and so on. I left the farm to take over this farm organization work. In the meantime I had mined the soil of its fertility and it was depleted of its humus and fibre.

Rill erosion set in, the top soil washed down and gullies started. Had you said anything to me in those earlier days about my moral obligation to the soil, my duty to maintain its fertility and to love and honor the land, well, I would have thought you a little touched. By way of contrast I want to tell a simple story told by the late Alec McLeod, K.C., of Morden. One day when driving through the country he saw a friend of his standing in a field of wheat near the road. It was a beautiful, sunny day, the crop was ripening to the harvest and the grain gently waving in the breeze. It was a sight to gladden any farmer's heart. Leaving his horse and rig at the fence he went over to have a chat with his friend, a Mennonite farmer. After the usual greetings Mr. McLeod said: "Well, Mr. Giesbrecht, I suppose you are admiring your crop and figuring what it is going to bring

you." "No," replied Mr. Giesbrecht, "I was just dreaming and imagined I saw Jesus coming toward me, walking over the waters of the Sea of Galilee." I tell the story to indicate an attitude.

Imagine a man seeing in his crop something more than dollars and cents! How exceptional and unusual the view that there was a religious aspect to a growing crop! Where shall we learn of these attitudes? Does the school teach anything about the earth as a great Mother, the earth as the giver of food, the earth as a creator? The function of the school briefly stated is the teaching of citizenship. Canada is a great country and has been endowed by nature with great wealth. "O Canada, we stand on guard for thee." Do the schools teach "The land for thine inheritance"?

The welfare of Canada depends chiefly on the well-being of its soil. Destroy its soil and you destroy Canada. To guard the heritage of the soil is a first principle of citizenship. How shall we love and honor the land if we are not taught in our youth? Are we to continue rather to learn in the hard school of experience only after nature has exposed to view the results of our mistakes and the breaking of her laws?

This soil we tread is Canada. In it is mystery, miracle, life, death and creation. It produces our food and makes possible man's existence on earth, it creates life, hence it is sacred. It is a trusteeship and we are its guardians. We cannot be good Canadian citizens if we are not good to Canadian soil. From association with the soil man established the beginnings of civilization, laid the foundations of the arts and culture and found inspiration in his upward search for truth. Only good comes from the earth, in it is spiritual refreshment. The goodness of the whole realm of nature is the basic fact of our existence. The earth, like man, is a part of creation and we must work together in co-operation with nature, in harmony with that fact. "Put off thy shoes from off thy feet for the place whereon thou standest is holy ground."

OUR STEWARDSHIP OF THE SOIL

WE HAVE SPOKEN of the good earth in previous talks as the giver of life, as the great provider, as a beneficent creator. Many people feel towards the earth as one feels towards a fellow being, as of a personal relationship. You often see people with an attitude of companionship towards the soil and of communion with it as a living thing. They seem to feel towards it as a friend, one to respect and love. Now, in this broadcast I would like to use my imagination (and I don't think it will be overdrawing the picture) and pretend that the earth is talking to us. I believe it would say something like this:

"I gave into your trust a rich soil. It has given you strength and vitality. Patiently through the centuries, I built into it those elements which would give you sturdy frames, strong muscles, red blood and active minds. I endowed these prairies with clear streams, water, extensive forests and boundless stretches of grass. I clothed the hills of the Turtle, Riding, Duck and Porcupine mountains with forests of poplar and other trees more than sufficient to provide homes for all who came here to live. I gave you the water power necessary to bring the benefits of scientific development to every home in the land. I gave you wood for fuel, and minerals for manufacture. I planted bluffs of trees, wild fruits and flowers. I stocked your lakes and streams with fish, and your land with wild life. Above all, I gave you a soil rich and abundant—the valleys of the Red River, the Swan River, the Souris, the Assiniboine and the Shell, and the great level plains — soil that would produce for you nearly all the essentials for good living. It was a banqueting table with all manner of good things, a land of beauty and of wealth—good to look upon. This was the setting when the pioneers arrived. I made you lords of creation with dominion over all. In sixty years on this stage, with complete control in your hands, you have enacted a drama of conquest. I see a picture that is greatly changed. Man, give me an account of your stewardship!

In the south-western corner of this province, banks of surface soil are piled high along and over the fences, in bluffs and across the roads; in places it has blown out down to the barren clay. In the Red River Valley I see ditches along the roadside filling with black drift. In the north, along the road to Dauphin, in the Swan Valley, on the way to Roblin, south to Virden, across the central area, in fact, wherever I look, the soil is going, drifting with the winds and washing with the rains. In some places it is, as yet, but slight, in others it is ominous, but everywhere there is erosion. The terrain is marred with mounds of displaced fertility, the slopes are scarred with gullies and the knolls bared to whitened domes. It's relatively small, you may say, but it is a beginning, an example of your disregard of my laws and a warning of what is to come if you take no heed.

Tell me, what has happened to your water courses and water reserves? Your Red River has only about half of the flow of former years and the Assiniboine much less than half of what it was formerly. Do you remember that in the early eighties steamboats went up the Assiniboine as far as Brandon? Your water resources are gradually disappearing; your lake levels are lowered; neither do your creeks and coulees run as in earlier days; the water table under the surface is down and you have had to deepen your wells. The prairies and the hills have been largely stripped of their cover and the grass and the timber are gone. The grass, the trees, the water, the soil were all in balance—together they made this a land of richness and abundance. Did you think yourselves wiser, that you ignored my ways, blindly upset the cycle of life and creation, and disfigured the land?

Furthermore, the people are restless and discontented on the land. Few of the early settlers or their descendants remain; they have moved to the cities or other provinces and other countries. Why so many tenants? Why so much changing about? Why in many parts is the rural population declining? You seem to cry out aloud in discontent. Is this not a good land, one in which to build homes, raise healthy families and have a good living? I put into these soils the vitamins, proteins, hormones and minerals necessary to build strong vigorous bodies. But in the enlistment for service in

the war, up to January, 1944, less than fifty per cent were fit for front-line duty. A very large percentage, more than two-thirds, of your youth are suffering from physical defects, tooth decay, weak sight, and malnutrition is common in this land of plenty.

Manufacturers have devitalized foods and you go to the drug store to buy vitamin pills and minerals to restore and maintain your vigor. I put these elements in the soil to be taken up by the plants, in turn to be fed into your bodies, that you could have strength and vitality, but you seem to prefer buying your health from druggists and doctors.

To sum up: I gave you a rich soil and good land to hold in trust for coming generations. In your tenure of sixty years the depletion of soil fertility has got under way and soil erosion by wind and rain is general. The forests have been denuded of timber, the water table in the soil and the streams and water courses have gone down. Much of the wild life has disappeared, there is much malnutrition, and the rural population has declined. You have fallen down in your stewardship and in your job of having dominion over all." So spoke the good earth. After thus charging us with our neglect and faults, its voice continued in another vein:

"You have broken the first law of the soil, namely, to put back what you take out. Your Professor J. H. Ellis tells you that on the average, your cultivated soils have only two-thirds as much organic matter as the virgin soils; hence it is wearing down. The depth of soil generally is only a few inches, in some places a few feet, but within it is the whole means for the production of life—plants, animals and men. Strip off that thin layer of delicate life-giving substance and you have a planet as lifeless as the moon. The soil gets its capacity for producing life from the vegetation and vegetation gets its growth from the soil—a complete cycle, a revolution of the wheel of life. If, then, you do not return vegetation to the soil how can it continue to produce?

You have taken out of this soil millions of bushels of grain and thousands of head of livestock; you have sold your produce in the market places of the world. You have exported the fertility I gave you and what have you returned? I gave you the calcium, the phosphates, the nitrates, the humus and all the substance of the soil, in trust. What have

you put back? Have you given any thought to me, the spirit of the earth, have you no code of soil morality? I am not angry, nor am I vengeful. If you ignore me and break my laws, then you will bring destruction on your own heads. It will be of your own doing and of your own free will.

I point out that I gave you dominion over the earth and you are betraying that trust. The fool has said in his heart: 'I will conquer Nature!' But Nature never has been and never can be conquered. Waters, soils, grasses and forests operate in fruitful relationship. They are mutually dependent and work together in physical, chemical and biological processes. I do not tolerate practices which disturb this balance. So the second law is to co-operate with me—Nature. My rules are simple, plain and easy to discern. I am the first co-operator. Work with me in partnership, and the land, its goodness and abundance shall be yours for generations to come.

Some farmers do grow grass, clover, alfalfa, return straw and manure to the land and work their farms with every care. They accept their land as a heritage to be guarded and handed on to their successors with the fertility unimpaired. They put back what they take out, they read and learn from the book of life around them. They work in co-operation with me and we both benefit. Unfortunately, they are the exception and not the rule.

The agricultural production of the small island of Britain equals in value that of all Canada. The people of that country and the countries of western Europe for generations have obeyed the first law of good farming; they have maintained the fertility of the soil. There is no greater production and no more beautiful countryside anywhere. Those on the land are healthy and sturdy. Their homes are permanent and their agriculture is stable.

Elsewhere soil erosion has become one of the most destructive forces that has ever been released by man. It has buried cities, destroyed nations and created deserts. It has happened many times in the past and is happening today. Cities in the valleys of the Euphrates and Tigris of which you read in the Old Testament now lie in dead lands buried under many feet of drift—a soil which once supported a thriving agriculture. The sands of the Sahara creep on and

are invading the fertile valley of the Nile. The threat of man-made deserts is a very real threat to all parts of Africa as well as to those bordering on the Sahara. Ancient inscriptions record that the cedars of Lebanon and the trees of the surrounding forests were cut down and carried away. Thus, the ancient civilization of the Phoenicians retreated before the axe, erosion of the mountain slopes and soil depletion. Nomadic tribes, a few small villages and towns now remain in a once populous country. In China the watershed of the Yellow River has been stripped of its forest cover and the periodic floods inundate many thousand square miles of territory. The loss of life and human suffering to the people are among the greatest recorded catastrophes of history.

On this continent you have destroyed millions of acres—land which once produced corn, wheat, tobacco and cotton. It has gone down the streams and rivers to the ocean, and it has drifted with the winds into piles and dunes. Already deserts are forming and are on the march. The dust clouds blow over veldt, steppe and prairie; the deserts move forward across continents, the forests are denuded and the watersheds bared, the rivers flood and destroy, soils are mined and the fertility is consumed.

With the destruction of agriculture, the empires of Syria, Greece, Rome, Carthage and Egypt fell away. Nations have gone and civilizations have decayed as man destroyed the soil. The lessons of history, the experiences of the past and the evidences of man's neglect are there for your learning. How long is lust for gain to be the ruling motive of your lives? When will you learn man cannot live by bread alone? I have entrusted you with this great heritage. If you betray me, silently I will retire from the scene. I shall disappear from under your feet and you will walk on barren soil, sand and desert.

You have the freedom to encompass your own destruction and to follow in the footsteps of the other nations which have refused to obey my laws. You did not make this land; this land made you. The strength of your nation is in its soil. I am the good earth, you must learn to love and honor the land, to return what I have given you in trust, to maintain the fertility of the soil and to co-operate with me in all

you do. Obey my laws and your days will be long in the land."

"And in his mortal time,
In his own hand,
He holds his fate:
To build or ruin,
To plunder or create."

SOILS AND HEALTH

GOOD HEALTH is based on good food. The health of the human family is becoming such that it is increasingly necessary we give consideration to what we eat and how we live. All we eat, except fish, comes out of the soil; therefore, there is a relationship between the soil and our health.

Man is made up of air, water and minerals. He is about 96% oxygen, carbon, hydrogen and nitrogen, and about 4% minerals such as calcium, phosphorus, potassium, nitrates, etc., etc. Plants contain the same elements as animals, but the mineral elements in plants are in lesser amounts and in different relative percentages. There is a world of mineral elements, a world of gaseous elements, a world of water, and these three worlds are linked together by a world of living matter, brought into being by that mysterious thing called "life". But all these worlds are combined in that complex world we call "soil".

In the soil there is tremendous activity, bacteria changing various of its elements into plant life and again in our bodies, active agents which change the plant food into blood, bone and muscle. Thus, the cycle of life, soil to plant, plant to animal, plant and animal back to the soil. The fertility of the soil will determine the health of the plant, and the health of the plant will determine the health of the animal or man. Conversely, if the soil is exploited of its fertility, the produce of the soil is affected, and man and animals suffer in terms of malnutrition and ill health. The reports of the health of recruits in Canada up to January, 1944, showed that out of over one million enlistees, only 452,348 were fit for front line duty, **less than 50%**. The figures given in the report of a survey made of 3,146 young people in Manitoba showed 70% suffering from one or more physical defects. It is not sufficient to say that to have a balanced diet we should eat fruit, vegetables, meat, milk and so on, but the question must be asked: "Where was this food grown?" The mineral and vitamin content of milk pro-

duced by cows in one area may vary considerably from that of the milk from cows in another area, and the same, of course, applies to vegetables and meat. Goitre, weak bone structure, white spots on the teeth, weak eyesight, and many other ailments from which man suffers in most cases can be traced to the lack of iodine, of phosphorus, of fluorine or of vitamin B.1. Similarly, among animals, goitre in lambs, breeding troubles, hairless pigs, Bang's Disease, etc., are in many cases due to the lack of minerals and other health-giving elements in the soil.

The size and figure of animals and the character of man have been influenced by the soils upon which they were fed and raised. The hidden elements of mineral and organic matter exercise a profound influence over the life which the soils support. The famed race horses of Kentucky, the heavy Clyde and the Belgian breeds were developed on good soils, whilst the Shetland and other small pony breeds were developed on poor, thin soils. The Zulus of South Africa and the Indians of the American plains were physically perfect men, raised on strong, rich soils, whilst pigmies drew their sustenance from deficient soils.

Professor Ellis says: "There is one outstanding lesson among others that we can learn from history, i.e., it is in replenishing the earth, not in exploiting it, that men have found happiness and have become truly great." And he concludes his pamphlet "Soils and Health" with these words: "The health of the nation is to a large extent in the hands of the farmers and the food producers. Veterinarians may be able to put drug store remedies into the feed box to relieve disorders of livestock; physicians may prescribe pills, capsules and tonics in an attempt to cure the ills of mankind brought about by faulty food products; but the farmer has the real job of preventing malnutrition by producing and distributing the perfect diet for the nation."

Vigor, action, vitality, were characteristic of the people who first settled and pioneered on the prairies. The virgin soil was rich in the elements which, fed into the plants, provided energy-giving food and produced men of action.

The importance of the method of culture of food is a primary consideration in the matter of health. It exceeds all other aspects of nutrition.

Professor F. H. King, in his book "Farmers of Forty Centuries", speaks of the agriculture in those countries and areas which have been farmed for many hundreds of years, where there is no soil depletion and where the people live in the best of health. The principle of the method followed is that everything that comes from the soil, whether it passes through animals or not, is returned to the soil; nothing is lost—all is preserved. All dead matter is returned to the soil from whence it came, its death is but the awaiting of the time when it will be restored to the living by way of plant food. He is very severe in his criticism of the western systems of agriculture. "Man," he says, "is the most extreme accelerator of waste the world has ever endured. His withering blight has fallen upon every living thing within his reach, himself not excepted; he has swept into the sea soil fertility which only centuries of life could accumulate—fertility which is the sub-stratum of all that is living."

G. T. Wrench, M.D., London, England, in a book which is going out to our travelling box libraries, says: "The people of ancient Peru, of many parts of India, particularly north-western India, of China and Japan, have maintained the fertility of their soil over many hundreds of years, even on steep mountainsides. With them, agriculture is a gardening, a care of the soil, a repayment to the soil carried on by many men and women, with never ending industry. Every ash, rag, offal and refuse is brought back to life by the resurrecting power of the soil. It is possible that by full repayment to the soil we alone get a full return. The impoverishment of the soil remains our chief ill. For progress, therefore, we now have to look backwards. We have raced forward at too great a speed. We have to look back to a type and time of agriculture in which vegetable and animal life were mutually healthy. Health comes to us through plant and food, and good, healthy vegetable food can only come from good, fertile soil.

In Holland, prior to the war, extensive experiments had been carried on on the basis of this principle—of first rotting and then returning organic matter to the land. It was noted that there was extraordinary improvement of plant life in quality and in resistance to disease as compared with sprays and other precautionary methods.

In England, near the mouth of the Ouse, this method of plant feeding was adopted on a 300-acre farm in 1935. The results of the experiment of but two years' duration surprised those who watched it. The vegetables not only had a richer flavor, a better appearance, and the leaves a deeper green—not only did they keep better in storage but in their vegetable health they had attained a new standard."

Another writer says that in Germany, prior to the war, in many places the farmers were building up the humus in the soil and abandoning the use of artificial fertilizers. In many parts of India, in Ceylon, in British East Africa, there are farms and estates which have tried out these old methods and they have proved that they increased the health of the plants.

All these experiments are very recent but it must be remembered they go back to the principles which have the backing of 4,000 years of experience. It is not a new discovery—it is a recognition of nature's ways and an adoption of her methods. Much of the research in this regard sought for the causes of health in farm vegetables and animals as a whole. Diseases they found to be the indicators of faults due to man himself. A study was made of the people of the best physical type, as well.

In experiments carried out at the Institute of Plant Industry, Indore, India, it was found that there was a continuous improvement in the health of the plants and crops cultivated on the principle of returning all organic matter to the soil. Dr. Howard, Director of the Institute, said: "I cannot recall a single case of insect or fungus attack." Speaking of animals, he writes: "I was able to study the reaction of well-fed animals to epidemic diseases such as foot and mouth disease, septicaemia, and so forth, which frequently devastated the countryside. None of my animals were segregated or inoculated and they frequently came in contact with diseased stock. No case of infectious disease occurred." He concludes his paper by saying: "Their true role (insects and fungi) in agriculture is that of censors for pointing out the crops which are imperfectly nourished. Disease resistance seems to be the natural reward of healthy and well nourished protoplasm (cell structure). The first step is to make the soil live by seeing that the supply of humus

is maintained." These words express not only the vegetable but also the animal problem, and not only the animal but the human. Man is the author of his own destiny. The prevention and banishment of disease are primarily matters of food. Antiseptics, inoculations and so forth evade the real problem. Disease is largely the result of imperfect nourishment.

Dr. Howard, in writing of his work and experiments transferred the health of the soil to that of the vegetable, and that of the vegetable to that of the animal, and those of the vegetable and animal back again to the soil. That is the secret of health—soil to vegetable, vegetable to animal, animal and vegetable back to the soil.

It may be said that life expectancy has been extended. This is largely the result of more attention to sanitation and hygiene. The average age of man in our countries has been extended several years, but it is marked by a more or less constant state of ill health. To quote another authority: "But morbidity (sickness) increases in such proportions as to cause the utmost apprehension." One person is short-sighted, another hears badly, a third has chronic cold; improper functioning of the internal organs is a common trouble. In many people the lungs function badly. They are anaemic because they are badly ventilated. Catarrhal symptoms are common. At every step one comes upon defective functioning of the heart. And the organs of digestion—few men have them in complete working order; one has too much stomach acidity, another too little; one person cannot digest this dish, another that, and many of us have too much stomach. Heart-burn, indigestion are frequent complaints. On top of these come a great host of nervous complaints, hysteria, neuroses, sleeplessness, neuralgia, low spirits. All kinds of depression complete the deplorable picture of civilized man. It is but the final picture of the impoverishment of our soils, an impoverishment forced upon us because we did not possess the foresight that was needed to feed the rapidly growing cities of the industrial era.

On the basis of data collected by certain scientists, for every million people of the United States and of Europe we pour into the sea, lakes and rivers every year up to 12 million pounds of nitrogen, up to 4,000,000 pounds of potassium

and up to 3 million pounds of phosphorus. Modern man's achievements in the increase of wealth have been wonderful, but all the while nature quietly has been revealing the divine laws of life by his physical impoverishment.

No form of soil can furnish a healthy population if it is subjected to erosion. Good health for whole peoples and nations is attainable if we give the devoted service to our soil, its health and the health of its production as is indicated in the principle of putting back what we have taken out.

DATE DUE SLIP

NOV 23 '79

DUE CAM OCT 29 '80

DUE CAM APR 06 '85

APR 11 RETURN

DUE CAM NOV 01 '85

NOV 03 RETURN

APR 30 '87

DEC 10 1990

NOV 27 RETURN

DEC 10 1990

RETURN

S 623 R22 1946

RANSOM F W

THE HERITAGE OF THE

PRAIRIES --

39366450 SCI



000006369078

S 623 R22 1946

Ransom, F. W.

The heritage of the prairies.

--

0271649X SCI

